

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (Original): An image display method of displaying an image on a monochrome display having sub-pixel structure in a main pixel comprising the steps of:

transferring digital image for displaying, by way of an interface for said digital data, image expressed by a number of steps of gradation for one sub-pixel being different from that for the other sub-pixels, using image data corresponded to said main pixel of said monochrome display; and

reproducing said image data corresponded to a number of steps of gradation as same as a number of steps of gradation of said one sub-pixel, using said digital data for displaying said transferred image.

2. (Original): The image display method according to claim 1, said image data provided to said one sub-pixel are data provided for said displayed image, and said image data provided to the other sub-pixel are differential data with relative to said image data provided to said one sub-pixel.

3. (Original): The image display method according to claim 1, as to said image data transferred to said monochrome display:

a number of steps of gradation of said image data corresponded to said one sub-pixel, being as same as a number of steps of gradation of an image displayed in said monochrome display;

a number of steps of gradation of said image data corresponded to said the other sub-pixels being represented by 1 bit;

said monochrome display adding said image data represented by 1 bit to the image data of said one sub-pixel to create image data of said the other sub-pixel, so that said image data is produced by sub-pixels corresponding to a number of steps of gradation being same between each of said pixels.

4. (Original): The image display method according claim 1, said number of steps of gradation of said image displayed by said monochrome display being represented using 8 bit data.

5. (Original): The image display method according to claim 1, said monochrome display being a liquid crystal display.

6. (Original): The image display method according to claim 1, said monochrome display whose pixel number is equal to or larger than a pixel number of QXGA, having 2048 pixel multiplied by 1563 pixel.

7. (Original): The image display method according to claim 1, a plurality of monochrome displays being connected to one video card.

8. (Original): The image display method according to claim 1, said monochrome display displaying an image in a portrait orientation.

9. (Original): An image display apparatus comprising:
a monochrome display unit having a sub-pixel structure in a main pixel which displays an image using image data;

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an interface unit by way of which said image data area input to said monochrome display unit;

a data transferring unit which transfers image for displaying, by way of said interface unit, image expressed by a number of steps of gradation for one sub-pixel being different from that of the other sub-pixels, using image data corresponded to said main pixel of said monochrome display; and

an image displaying unit which reproduces said image data corresponded to a number of steps of gradation as same as a number of steps of gradation of said one sub-pixels, using said digital data for displaying said transferred image.

10. (Previously Presented): The image display apparatus according to claim 9, said image data provided to said one sub-pixel are data provided for said displayed image, and said image data provided to the other sub-pixel are differential data with relative to said image data provided to said one sub-pixel.

11. (Original): The image display apparatus according claim 9, said number of steps of gradation of said image displayed by said monochrome display being represented using 8 bit data.

12. (Previously Presented): The image display apparatus according to claim 9, said monochrome display being a liquid crystal display.

13. (Previously Presented): The image display apparatus according to claim 9, said monochrome display whose pixel number is equal to or larger than a pixel number of QXGA, having 2048 pixel multiplied by 1563 pixel.


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14. (Previously Presented): The image display apparatus according to claim 9, a plurality of monochrome displays being connected to the video card.

15. (Previously Presented): The image display apparatus according to claim 9, said monochrome display displaying an image in a portrait orientation.

16. (Previously Presented): The image display method according to claim 1, wherein each sub-pixel is independently modulated.

17. (Previously Presented): The image display apparatus according to claim 9, wherein the monochrome display unit has multiple sub-pixels per main pixel, and further includes multiple adder circuits,

 wherein said one sub-pixel represents a base value for displaying an image, and said adder circuits add values of one bit to the base value to obtain gradation values for the other sub-pixels.


18. (Previously Presented): The image display method according to claim 16, wherein at least one sub-pixel has a different number of bit representation than the others.

19. (New): The method of claim 1, wherein in reproducing the image data using the number of steps of gradation of said one sub-pixel, image data for the other sub-pixels are obtained in derivation of the image data for said one sub-pixel.

20. (New): The apparatus of claim 9, wherein the image displaying unit reproduces the image data using the number of steps of gradation of said one sub-pixel, and image data for the other sub-pixels are obtained in derivation of the image data for said one sub-pixel.

21. (New): An image display method of displaying an image on a monochrome display having sub-pixel structure in a main pixel each sub-pixel of which is capable of expressing multiple steps of gradation, comprising the steps of:

forming from input monochrome image data for displaying said image on said monochrome display first image data for transfer, expressed by data of a predetermined number of steps of gradation and assigned to one sub-pixel in said main pixel of said monochrome display and second respective image data for transfer, expressed by data of a number of steps of gradation being different from said predetermined number of steps of gradation and assigned to the other sub-pixels in said main pixel;

transferring all of said first image data for said one sub-pixel and said second respective image data for the other sub-pixels from a digital video card to a digital interface of said monochrome display;

producing respective digital monochrome image data for display, expressed by data of an identical number of steps of gradation and assigned to each sub-pixel in said main pixel of said monochrome display using said first image data for said one sub-pixel and said second respective image data for the other sub-pixels transferred from said digital video card;

displaying said image on said monochrome display using the thus produced respective digital monochrome image data assigned to each sub-pixel in said main pixel.

22. (New): An image display apparatus comprising:

a monochrome display unit displaying an image using digital monochrome image data and having a sub-pixel structure in a main pixel each sub-pixel of which is capable of expressing multiple steps of gradation;

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a digital interface unit by way of which said image data are input to said monochrome display unit;

a data transferring unit including:

a transfer data forming unit for forming from supplied input digital monochrome image data first image data for transfer, expressed by data of a predetermined number of steps of gradation and assigned to one sub-pixel in said main pixel of said monochrome display and second respective image data for transfer, expressed by data of a number of steps of gradation being different from said predetermined number of steps of gradation and assigned to the other sub-pixels in said main pixel; and

a digital video card for transferring all of said first image data for said one sub-pixel and said second respective image data for the other sub-pixels from a digital video card to a digital interface of said monochrome display; and

a display data producing unit for producing respective digital monochrome image data for display, expressed by data of an identical number of steps of gradation and assigned to each sub-pixel in said main pixel of said monochrome display using said first image data for said one sub-pixel and said second respective image data for the other sub-pixels transferred from said digital video card,

wherein said image is displayed on said monochrome display using the thus produced respective digital monochrome image data assigned to each sub-pixel in said main pixel.
